

(3.0013)

**Neotropical dryopoids I. *Xenelmis laura*, a new species
from Brazil (Coleoptera, Elmidae)**

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The Genus *Xenelmis* Hinton 1936 is represented by seven known species of minute beetles ranging from central Mexico to northern Argentina. In 1946, Hinton divided these into three species-groups: (1) the *granata* group, with a well-developed sublateral pronotal carina; (2) the *micros* group, lacking such a carina but with a submedian row of granules on the pronotal disc; and (3) the *bufo* group, lacking both of these features. The new species here described appears to be intermediate between the *micros* and *bufo* groups in that some individuals exhibit the submedian row of pronotal granules while others do not. Since this feature is the only character I find separating these specimens, I do not consider it of taxonomic significance in this species. Presumably the character is more constant in the species treated by Hinton. Initially, I assumed that my specimens represented two species.

The new species is named in honor of my wife, who has accompanied me on every riffle beetle expedition as a long-suffering car-sitter.

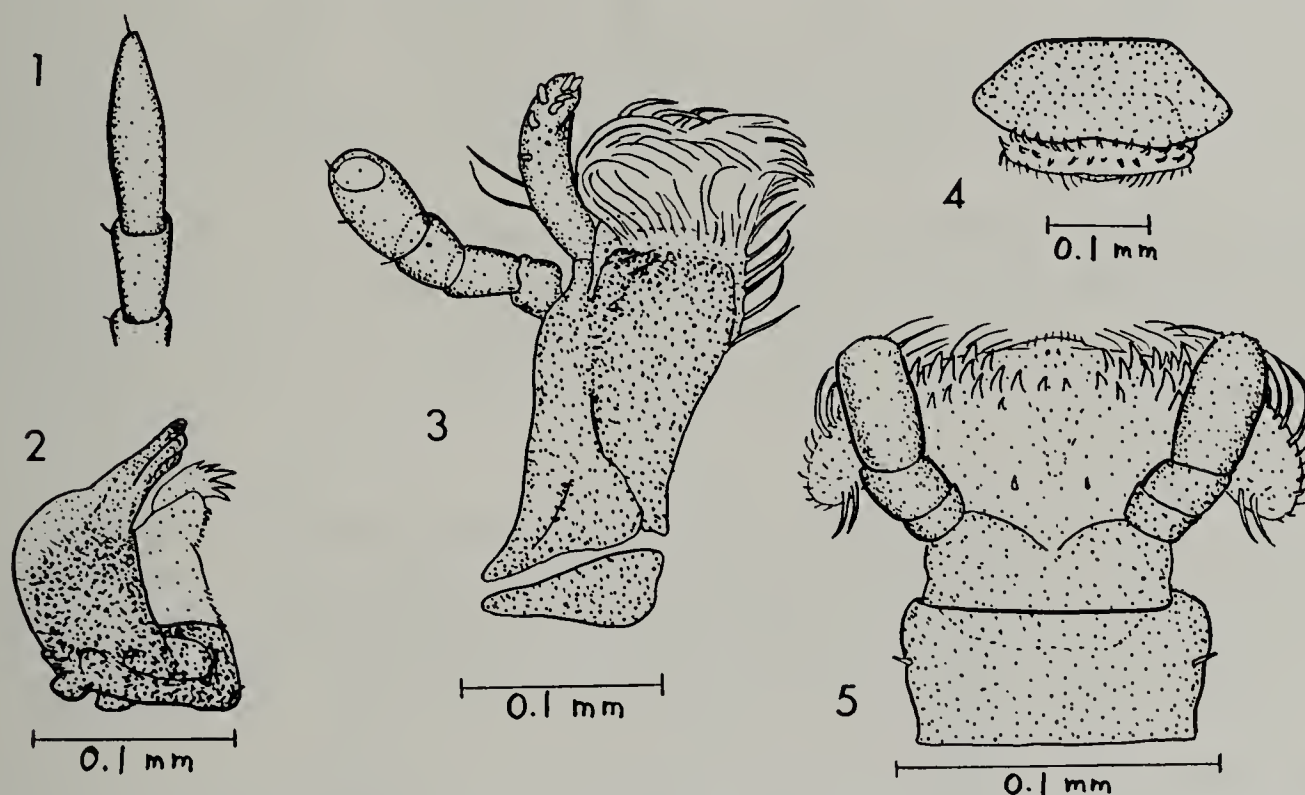


Fig. 1. *Xenelmis laura* sp. n. Apical and subapical segments of left antenna of male, dorsal aspect.

Fig. 2. *X. laura* sp. n. Mandible of male.

Fig. 3. *X. laura* sp. n. Maxilla of male. Basal segment of palp is globular and discrete.

Fig. 4. *X. laura* sp. n. Clypeus and labrum of male.

Fig. 5. *X. laura* sp. n. Labium of male, ventral aspect.

***Xenelmis laura* Brown, New Species**

(Figs. 1-14)

Male: Length 1.3 mm; breadth 0.81 mm. Body broadly obovate and strongly convex; elytra especially convex near basal third. Cuticle feebly shining and reddish brown; pronotum with bronze case; tibiae and tarsi rufo-testaceous; maxillary and labial palps testaceous.

Head on each side with a low ridge extending forward from near middorsal line on vertex, curving gently outward, and terminating near base of antenna; ridges about 0.10 mm apart at base; between these ridges the vertex is shallowly depressed. Antenna about 0.43 mm long, the apical segment fusiform, with a terminal seta (Fig. 1). Mandible inflated near middle, abruptly tapering to the three subparallel, blunt apical teeth; prostheca membranous, spiny at apex (Fig. 2). Maxilla with stipes rather elongate; basal segment of palp globular; galea curved, elongate, with short, stout, blunt apical and subapical spines; lacinia short, broad, apex densely covered with rows of rather long, curved setae directly medially (Fig. 3). Clypeus apically emarginate; labrum retractile (?), apex broadly arcuate, with a row of marginal setae; upper setae (beneath clypeus) recurved (Fig. 4). Labium with both mentum and prementum transverse; ligula broadly expanded and rather densely clothed with spines and setae of distinctive shapes and sizes as shown, lateral margins (angles) recurved (Fig. 5).

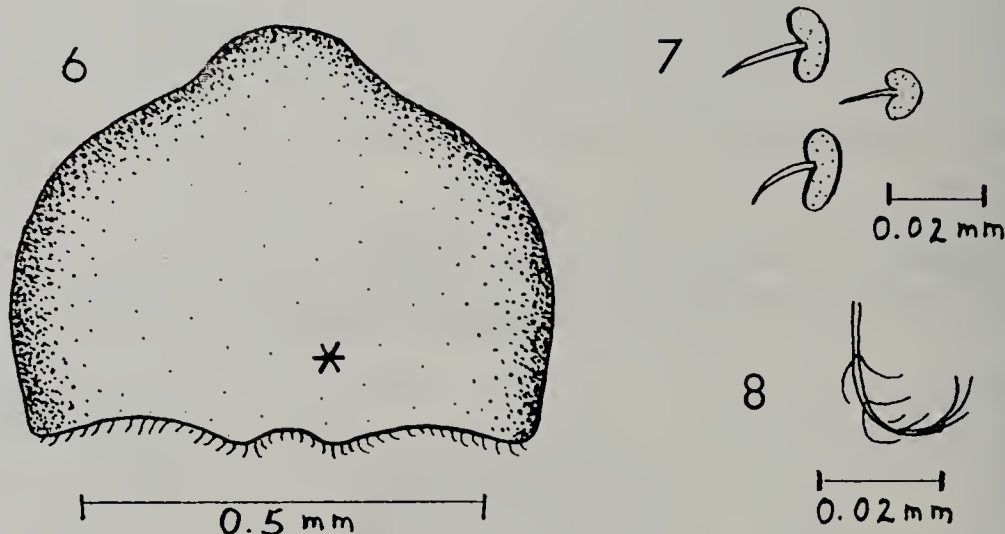


Fig. 6. *X. laura* sp. n. Pronotum of male, dorsal aspect.

Fig. 7. *X. laura* sp. n. Setiferous tubercles of pronotum at location indicated by asterisk in Fig. 6.

Fig. 8. *X. laura* sp. n. Plumose hair from posterior margin of pronotum just to the right of scutellar notch.

Pronotum (Fig. 6) 0.5 mm long, 0.63 mm wide at base, expanding to 0.68 mm at about basal one-third, then tapering roundly and bulging anteriorly to an arcuate apex; base trisinate; disc rather evenly convex; surface sparsely covered with reniform setiferous tubercles (Fig. 7); at base in front of scutellum with a central region which lacks tubercles although setae are present. Basal margin bordered by a row of curved plumose hairs (Fig. 8).

Elytra fused at base; 0.80 mm long, 0.69 mm wide at base, increasing to 0.81 mm at widest point, which is between basal one third and one half. Lateral margins explanate, finely crenate to subserrate. Apices conjointly produced and rounded. In addition to the two sublateral tuberculate carinae on each elytron, there is an inconspicuous carina in the third strial interval extending from base to near middle and composed of 18-22 setiferous, oblong to reniform tubercles. These tubercles are distinctly smaller than those of the major (sublateral) carinae. Strial punctures shallow; strial intervals flat. Surface with sparse, inconspicuous setae. Hind wings absent. Scutellum transverse, ovoid, about 0.086 mm long and 0.10 mm wide, slightly notched at sides; surface flat, punctate.

Prosternum (Fig. 9) 0.27 mm long; prosternal process 0.15 mm long and 0.27 mm wide; carinate from mesial margin of procoxal cavity to anterior margin; with sparse, small, anteriorly-directed discal setae. Mesosternum (Fig. 10) narrowest at anterior margin, where its width is only half that at the center or at the posterior margin; groove for reception of prosternal process expanded posteriorly; posterior margin broadly and arcuately emarginate. Metasternum (Fig. 10) with rounded anterior margin fitting into emargination of mesosternum; disc with small granules or tubercles clustered chiefly in anterior half, setae sparse and chiefly in posterior half. Abdominal sternites with no appreciable granules, but sparsely covered with setae.

Fore tibia with an apical cluster of short, stout spines. Middle tibia with a median apical tuft of pale setae; hind tibia with an even more conspicuous apical tuft of slender, pale, distally-directed setae fully one-third as long as tibia (Fig. 11). First four segments of each tarsus on ventral surface with two rows of long, pale, erect hairs (Fig. 11).

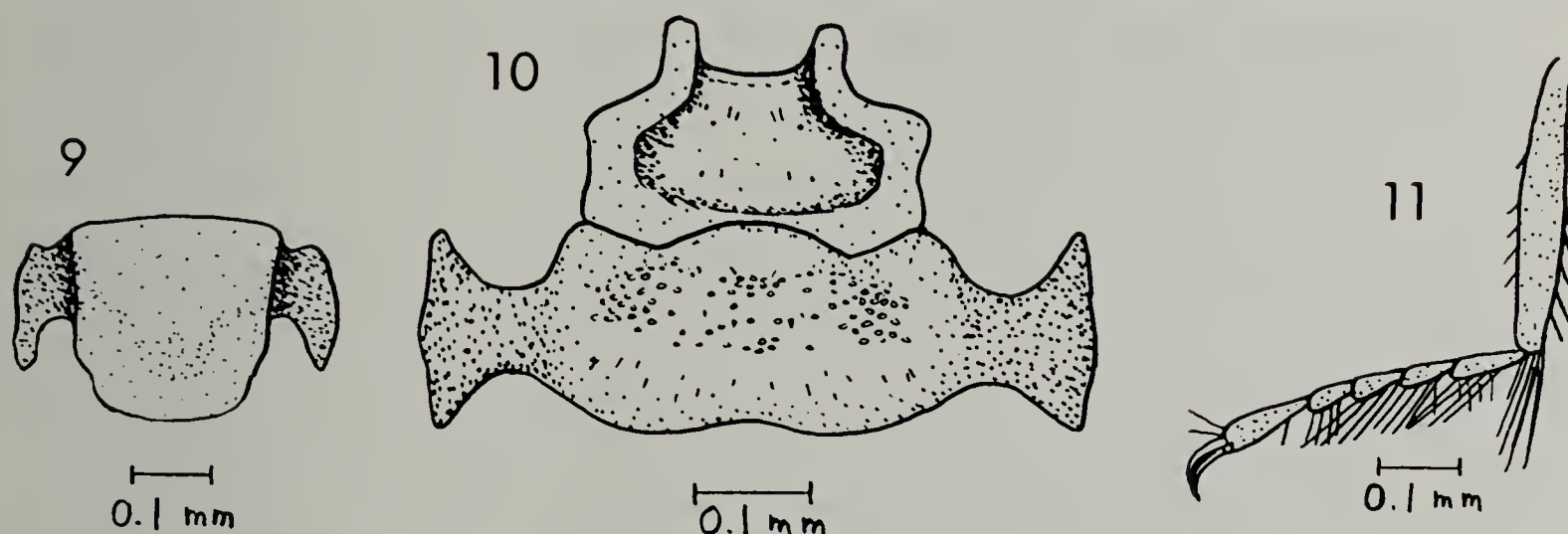


Fig. 9. *X. laura* sp. n. Prosternum of male, ventral aspect.

Fig. 10. *X. laura* sp. n. Mesosternum (above) and metasternum of male, ventral aspect.

Fig. 11. *X. laura* sp. n. Tibia and tarsus of male, right hind leg, ventral aspect

Genitalia with both penis (middle piece) and parameres relatively broad and blunt; basal piece longer than parameres or penis (Figs. 12, 13).

Female: Length 1.3 - 1.4 mm; breadth 0.75 - 0.80 mm. Externally similar to male except that apical tufts of setae on middle and hind tibiae and hairs of tarsi are much shorter and less noticeable, and tend to curl slightly. Genitalia relatively elongate and slender (Fig. 14).

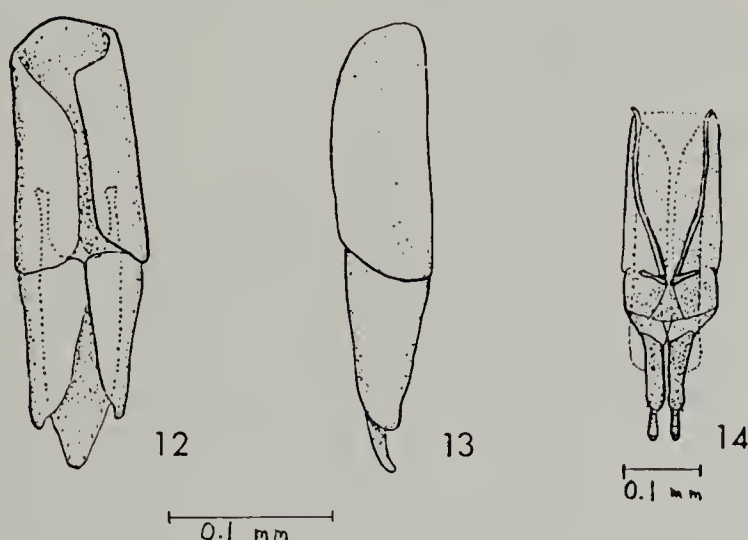


Fig. 12. *X. laura* sp. n. Male genitalia, dorsal aspect.

Fig. 13. *X. laura* sp. n. Male genitalia, lateral aspect from right side.

Fig. 14. *X. laura* sp. n. Female genitalia, dorsal aspect.

Type: Male in the University of Oklahoma Museum of Science and History (Stovall Museum), Norman, Oklahoma (dissected, mounted on slides XA 10, XA 11, and XA 12). BRAZIL: Pará—Rio Bananal near Agua Azul, June 9, 1968; elevation about 350 feet.

Specimens examined: Type male and five female paratypes with the same data.

Variations: In two of the five females, there is a submedian longitudinal row of fine tubercles or granules on each side of the pronotum. In the other three females and the male, the pronotal tubercles appear to be randomly distributed. One of the latter females is much darker than the rest, with rufo-piceous elytra and distinctly bronzed pronotum.

Comparative notes: This species seems closest to *X. teres* Hinton, which was described from Porto Velho, Matto Grosso, Brazil (Hinton, 1946). It differs from *X. teres* in lacking hind wings, in having smaller granules in the carina of the third stria interval, in having apical tufts of setae on the middle and hind tibiae and rows of hairs on the first four tarsal segments, in the presence of reniform setiferous tubercles on the pronotum, and in commonly lacking submedian longitudinal rows of granules on the pronotum. The structure of the male genitalia and the presence of erect hairs on the soles of the tarsus suggest a relationship to *X. audax* Hinton and *X. comis* Hinton. From these, *X. laura* sp. n. differs in having 18-22 granules rather than about 10 in the third stria interval, in having apical tufts of setae on the middle and hind tibiae, in the distribution of tarsal hairs, and in lacking hind wings (Hinton made no mention of the absence of hind wings in any species, and figured the wing of *X. bufo* in his 1940 paper).

Although Hinton created the Genus *Xenelmis* in 1936, his most complete treatment of the features of the genus is in his 1940 paper, which includes replicates of the figures from his original description. The following key to the species of *Xenelmis* is adapted from that published by Hinton in 1946.

Key to the Species of *Xenelmis*

1. Pronotum with a prominent sublateral carina or line of granules extending from base to about apical fourth. (Santa Catharina, Brazil) **X. granata** (Grouvelle, 1888).
Pronotum without a sublateral carina 2
- 2(1). Middle and hind tibiae with apical tufts of setae (Fig. 11); segments 1-4 of all tarsi bearing two rows of hairs on ventral surface; hind wings absent. (Pará, Brazil) **X. laura** sp. n.
Tibiae without apical tufts of setae; hairs on ventral surface of tarsi, if present, not on segments 1-4 of all feet; hind wings present (?) 3
- 3(2). Disc of pronotum with granules more or less evenly distributed, without two submedian rows of granules 4
Disc of pronotum with two submedian longitudinal rows of fine granules 5
- 4(3). Elytra with a conspicuous row of coarse granules on basal three-fifths of third interval. Middle tibia with only one apical fringe of tomentum. (Matto Grosso, Brazil) **X. tarsalis** Hinton 1940.
Elytra without a row of coarse granules on third interval. Middle tibia with two apical fringes of tomentum. (Central America) **X. bufo** (Sharp, 1882).

- 5(3). Elytra without granules on basal part of third interval. (Santa Catharina, Brazil)**X. micros** (Grouvelle, 1888).
Elytra with a row of coarse granules on basal part of third interval 6
- 6(5). Elytra with row of granules on third interval extending to apical half and consisting of 19-20 granules; basal third with punctures of first two striae shallow and indistinct. (Matto Grosso, Brazil)**X. teres** Hinton 1946.
Elytra with row of granules on third interval confined to basal fifth or sixth and consisting of about 10 granules; basal third with punctures of first two striae deep and distinct 7
- 7(6). Species 1.6 mm long. First abdominal sternite with a short median carina. (Santa Catharina, Brazil and northern Argentina)**X. audax** Hinton 1946.
Species 1.4 mm long. First abdominal sternite without a carina. (Santa Catharina, Brazil; Paraguay; northern Argentina).**X. comis** Hinton 1946.

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DESCRIPTORS: Coleoptera; Elmidae; *Xenelmis*; key; new species; Brazil.

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ABSTRACT—BROWN, HARLEY P. (Zool. Dept., Univ. Okla., 730 Van Vleet Oval, Norman, Oklahoma 73069, U.S.A.) Neotropical dryopoids I. *Xenelmis laura*, a new species from Brazil (Coleoptera, Elmidae). Coleop. Bull. This species, described from the Rio Bananal, near Agua Azul in the state of Pará, differs from other known species is being wingless, in having apical tufts of setae on the middle and hind tibiae, and in having rows of hairs on the ventral surfaces of the basal four segments of all tarsi. In the distribution of pronotal granules it is intermediate between the *X. bufo* and *X. micros* species-groups. A key is included to all known species of *Xenelmis*.—Author.